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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,530	09/30/2003	Kjell Ankner	0365-0579P	8323
2292	7590	10/08/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EINSMANN, MARGARET V	
		ART UNIT	PAPER NUMBER	1751

DATE MAILED: 10/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/676,530	ANKNER ET AL.
	Examiner Margaret Einsmann	Art Unit 1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 30 August 2004.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-5 and 7 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-5,7 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

*Specification*

Applicant's amendment has been entered and applicant's remarks carefully considered. The pending claims are 1-5 and 7.

The disclosure is objected to because of the following informalities:

According to US practice, it is improper to refer to the claims in the application in the description. See page 1 line 10 and page 2 line 9. Appropriate correction is required.

Applicant is requested to update the status of the parent application by indicating that it is abandoned.

*Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In response to this rejection, applicant states that the term in claim 2 is defined on page 3 of applicant's specification. According to that definition, 2-ethyl-1,3-hexanediol, the only diol claimed in claim 1, is chemically and technically stable. Accordingly claim 2 is redundant, since it claims attributes already incorporated into the diol of claim 1.

The rejection of claims 1-6 under 35 U.S.C. 102(b) as being anticipated by Nakahara et al., US 5,374,366 is withdrawn due to applicant's arguments and the cancellation of claim 6.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5,7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagihara et al., EP 415,778.

Hagihara et al. disclose a refrigeration oil composition comprising a hydrogenated fluoroethane and an ester obtained from an aliphatic polyhydric alcohol having 1 to 6 primary hydroxyl groups, a saturated aliphatic monocarboxylic acid having 2 to 9 carbon atoms and a saturated dicarboxylic acid having 2 to 10 carbon atoms (abstract) . Page 4 lines 27 et seq. lists the aliphatic polyhydric alcohols which are particularly preferred including 2-ethyl-1,3-hexanediol (reading on instant claim 1) and hindered alcohols. The lists of dibasic acids is on page 4 lines 48 et seq and includes most listed in instant claim 4. The monocarboxylic acids are listed on page 3. Referring to Table 1 on page 7, one notes that product 1 comprises neopentyl glycol as the polyol, which is esterified with a mixture of 1 mole of caproic acid and 0.5 moles of glutaric acid. Product 9 is formed from trimethylolpropane esterified with 1.8 moles of caproic acid and 0.6 moles of adipic acid. Thus patentees esterify using the mono acid and diacid in the same ratio as claimed by applicant. While this reference discloses forming esters from polyols including 2-ethyl-1,3-hexanediol, and esterifies said polyols with mixtures of a monoacid and a diacid in the same ratio as claimed by applicants, and using said esters in refrigeration oil compositions with fluoroethanes, there is no working example of a composition comprising 2-

ethyl-1,3-hexanediol. It would have been obvious to one having ordinary skill in the art that the mixtures claimed are covered within the bounds of this reference because 2-ethyl-1,3-hexanediol as well as all of the mono- and diacids are taught as having utility in the compositions of the invention, all are used disclosed for use in combination with fluorocarbon refrigerants.

Claims 1-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakahara et al., US 5,374,366.

Claims 14 and 25-28 in columns 15-18 teach all of the limitations of the complex ester claimed in applicant's claims 1-5,6 when the aliphatic polyhydric alcohol (D) is 2-ethyl-1,3-hexanediol as claimed. While applicant does not claim said ester as part of a composition comprising a fluorinated hydrocarbon refrigerant, patentee's purpose, as stated in col 1 lines 1-6 discloses that the present invention relates to a synthetic ester lubricating oil that has high miscibility with hydrogen-containing fluoroalkane refrigerants. Col 4 lines 11-23 list the acids as claimed in claim 4. Column 5 lines 20-40 disclose compositions comprising the specific refrigerants as claimed in claim 5. Accordingly, when the ester comprises 2-ethyl-1,3-hexanediol as claimed, the disclosed compositions are the claimed esters.

Nakahara differs from applicant's claims in not providing a working example of a composition comprising both a fluorocarbon refrigerant and a complex ester of 2-ethyl-1,3-hexanediol, wherein the molar ratio between the mono- and dibasic carboxylic acids is 50:50 to 99:1. It would have been obvious to a man having skill in the art at the time the invention was made to envision a refrigerant composition as claimed since Nakahara discloses esters comprising all of the components as claimed, that is, the fluorinated hydrocarbons and the esters

comprising the specific monocarboxylic acids and dicarboxylic acids combined with the specific 2-ethyl-1,2-hexanediol as claimed, which is taught as being equivalent to the polyols used in the working examples. Additionally, while Nakahara does not disclose the specific ratio of acids as claimed, all ratios of acids are included in the disclosure, absent unexpected results of the ratio as claimed.

***Response to Arguments***

Applicant's arguments filed 8/30/04 have been fully considered but they are not persuasive. Applicant argues that surprisingly, applicants have discovered that excellent solubility can be obtained with complex esters of 2-ethyl-1,3-hexanediol even at high proportions of dibasic acids as seen in the experimental results discussed in the specification. Applicant states that the skilled artisan would not have predicted that ETHD could be selected and esterified with a mixture of mono- and dibasic acids in the specified molar ratio to achieve good solubility in fluorinated hydrocarbons. Applicant states that he has conducted experimental tests using another polyol mentioned by Haghara and found that the resulting esters were much less soluble than those produced by the instant invention. However, applicant has not provided those results in this application in Declaration form. A direct comparison with the compositions of the reference is required. Applicant is directed to M.P.E.P716.02 (d) and (e) for the requirements of comparisons which will overcome a *prima facie* case of obviousness. Objective evidence of unobvious results must be commensurate in scope with the claims. *In re Prater*, 162 USPQ 541; *In re Tiffin*, 172 USPQ 292; *In re Linder*, 172 USPQ 356; *In re Greenfield*, 197 USPQ 227 Where unobvious results are relied upon as a basis for patentability, a proper comparative showing is a minimum requirement. *In re Eisenhut*, 114 USPQ 287.

Hagihara is addressing the same problem as is applicants; that is the problem of poor compatibility of lubricating oils with fluoroethane refrigerants (page 3 line 23.) Applicant is directed to the abstract of Hagihara and the statement of the proportion of monobasic and dibasic acids used, which appears on page 3 lines 19-20: one mole of dihydric alcohol, 4 moles or less of saturated aliphatic monocarboxylic acid and 0.9 moles or less of saturated dibasic acid. Since Hagihara teaches that ETHD is a preferred polyol, and he teaches esterifying it with a mixture of mono- and di- carboxylic acids in the ratio claimed, the claims remain rejected in the absence of unexpected results.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret Einsmann whose telephone number is 571-272-1314. The examiner can normally be reached on 7:00 AM -4:30 PM M-Th and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 571-272-1316. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-0994.

October 5, 2004

*Margaret Einsmann*  
Margaret Einsmann  
Primary Examiner  
Art Unit 1751